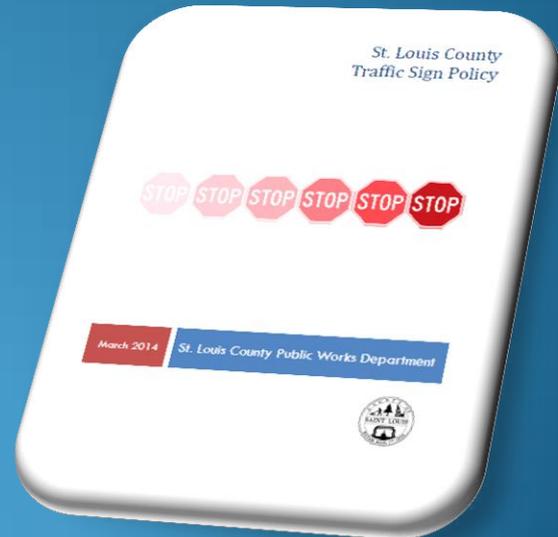


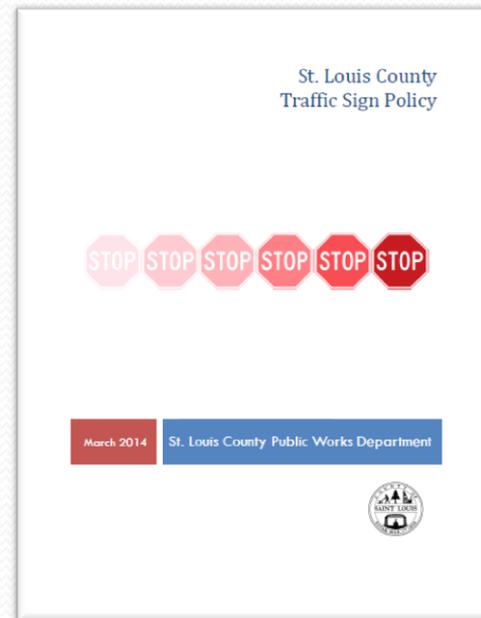
# St. Louis County Proposed Traffic Sign Policy

Victor Lund, PE  
Traffic Engineer  
*St. Louis County Board Workshop*  
*February 18, 2014*



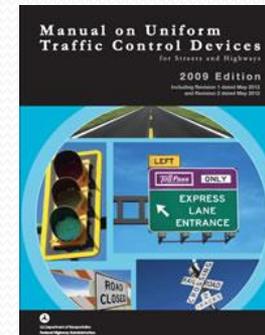
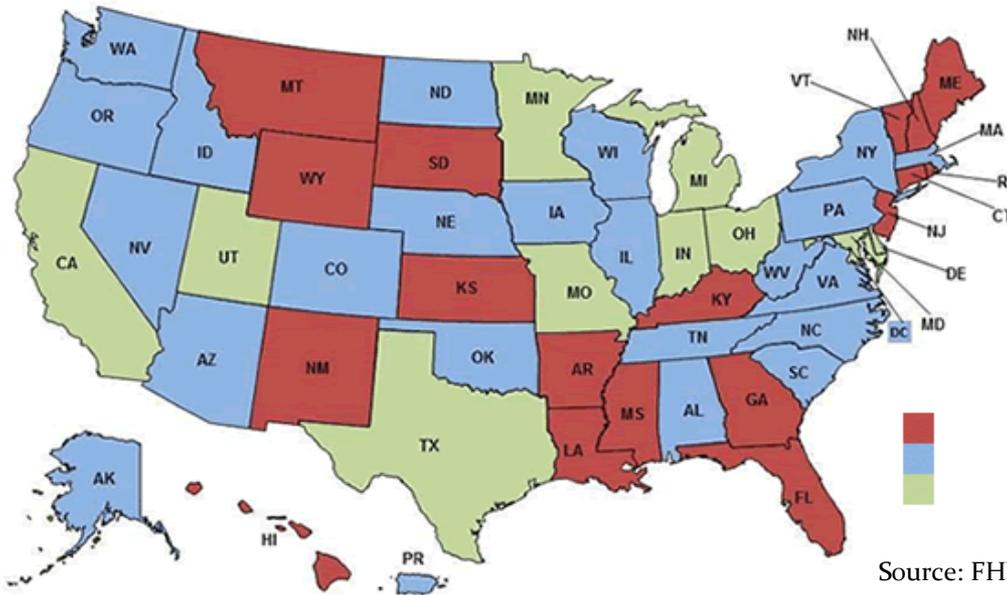
# Objectives

- Behind the curtain...
- Why a traffic sign policy?
- Overview of policy statements
- Next steps...



# What is the MUTCD?

- “Manual on Uniform Traffic Control Devices”
- Establishes minimum standards and provides guidance to ensure uniformity of traffic control devices across the nation.



**Adoption of the national MUTCD**  
**Adoption of the national MUTCD along with a State supplement(s)**  
**Adoption of a State MUTCD**

# The MUTCD is Instituted in Law

- 23 CFR 655.603 states the MUTCD is the national *standard for all traffic control devices* installed on *any street, highway, or bicycle trail open to public travel*
- Section 15 of the Uniform Vehicle Code adopts the MUTCD as the standard for all traffic control devices
- MN Statute 169.06 requires the commissioner to adopt a manual and specifications for a uniform system of traffic-control devices
- The MN Commissioner of Transportation adopted the MnMUTCD for all public roadways – December 15, 2011

**The MUTCD applies to all public and private roads that are open to the public.**



# Principles of Traffic Control Devices

A traffic control device should meet these five basic requirements...

**A.** Fulfill a need

- ✓ *Safety or traffic operations*

**B.** Command attention

- ✓ *Standard design*

**C.** Convey a clear, simple meaning

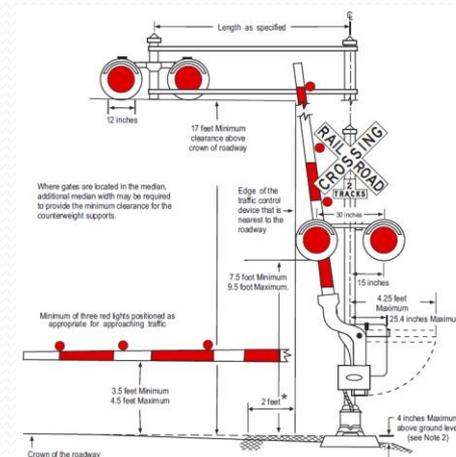
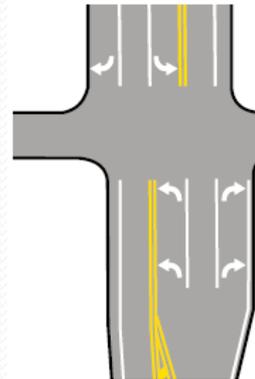
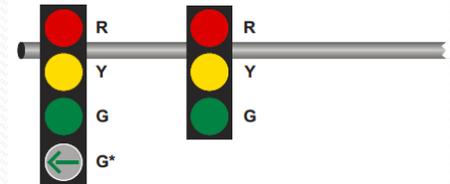
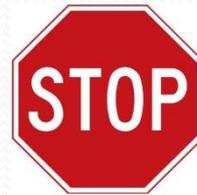
- ✓ *Drivers understand what to do*

**D.** Command respect from road users

- ✓ *The actual condition is plainly seen*

**E.** Give adequate time for proper response

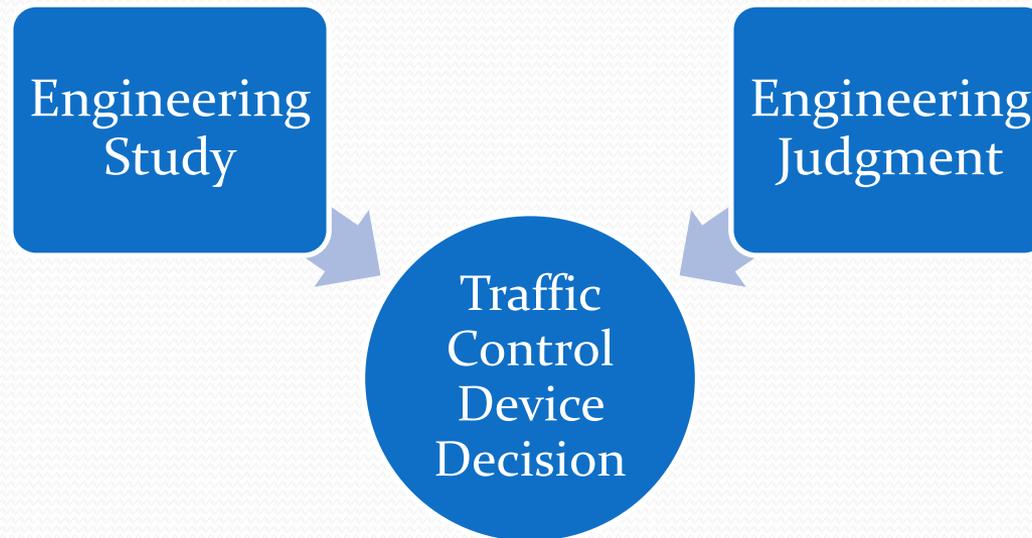
- ✓ *Drivers can respond appropriately*



Source: MN MUTCD

# MUTCD Application

*How should we make the decisions?*



- MN MUTCD Section 1A.9 states decisions to use traffic control devices *should* be made on the basis of an engineering study or by engineering judgment.
- MN MUTCD Section 1A.13 states engineering studies or engineering judgment *shall* be performed/exercised by an engineer.

# MUTCD Application

- **STANDARD:** – a statement of required, mandatory or specifically prohibited practice; the verb SHALL is used
- **GUIDANCE:** – a statement of recommended, but not mandatory, practice; deviations allowed based upon engineering judgment or engineering study; the verb SHOULD is used
- **OPTION:** – a statement of practice that is permissive and carries no requirement or recommendation; the verb MAY is used
- **SUPPORT:** – an information statement that does not convey any degree of mandate, recommendation, authorization, prohibition or enforceable action

# MUTCD Retroreflectivity Requirements

- Original mandate
  - Assessment/Management Method – 2012
  - Ground mounted signs – 2015
  - Street Name and Overhead Signs – 2018
- Revised Mandate
  - Eliminated dates for sign compliance
  - Still requires an assessment/management method
  - Still specifies minimum retroreflectivity
- Public Works implemented the “Blanket Replacement” method with the “10-Year Plan” in 2006



# MUTCD Retroreflectivity Requirements

## STANDARD:

Public agencies or officials having jurisdiction shall use an assessment or management method that is designed to maintain sign retroreflectivity at or above the minimum levels in Table 2A-3.

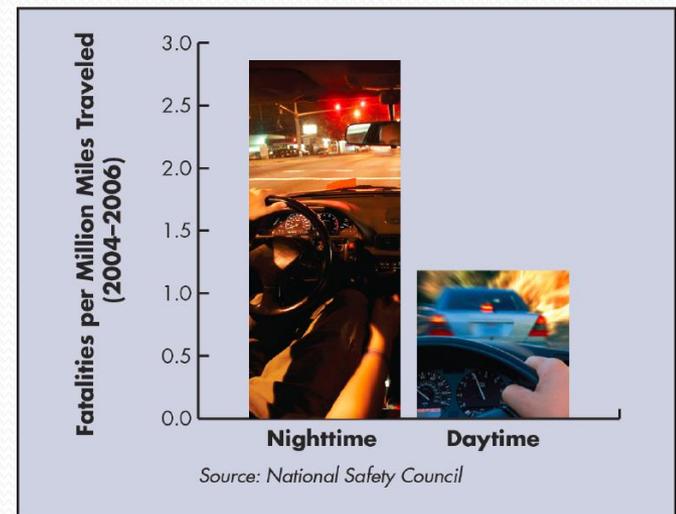
**Compliance Date: June 13, 2014**



Source: FHWA Sign Retroreflectivity Requirements Brochure

## Management Methods

- Visual Nighttime Inspection
- Sign Retroreflectivity
- Expected Sign Life
- • **Blanket Replacement**
- Control Signs



# MUTCD Police?



- There are no sign police in Minnesota
- However...it is best, from a risk management perspective, for an agency's practice to be consistent with the MUTCD
- The best answer, in most cases, is to follow the guidance of the MUTCD

# Financial Budgeting

3,000 miles



X 13 signs/mile



X \$200/sign

= \$8,000,000

Annual Replacement Cost	
100% (status quo)	\$670,000
80% (20% reduction)	\$540,000
Annual Savings	\$130,000

\*Assume a 12 year replacement cycle.



**Financial strategy suggests a reduction in sign inventory to reduce costs.**

What is wrong with this picture?  
Hint: Do you see any pedestrians?

# What Signs Are Required?

## Regulatory

STANDARD (Shall)	GUIDANCE (Should)	OPTION (May)	SUPPORT
Speed Limits	Stop	Yield	No Parking
One Way Do Not Enter	Road/Bridge/ Sidewalk Closed	Slower Traffic Keep Right	End Speed Zone
Turn Prohibition	Pass With Care	Wrong Way	
All Way (Stop) Supplementary Plaque	Intersection Lane Control	Cross Traffic Does Not Stop	
	Two-Way Left Turn Lane	Advance Intersection Lane Control	
	Right/Left Turn Lane	Stop For Peds In Cross Walk	
	State Law Signs	Do Not Pass	
	Speed Reduction	Keep Off Median	
		Traffic Signal (Clarifications)	
		Pedestrian Crossing	
		Weight Limits	
		Begin/End One-Way	
		Divided Highway	
		Keep Right	

## Warning

STANDARD (Shall)	GUIDANCE (Should)	OPTION (May)
Railroad Crossing	Hill	No Passing Pennant
Low Clearance (Less Than 12 In. Above Legal Max. Height)	Road/Bridge Narrows	Horizontal Alignment
Advance Traffic Control (Limited Sight Distance)	Divided Highway	Next XX Miles Distance Plaque
No Train Horn	Bump/Dip	Advisory Speed Plaque
	Pavement Ends	One Direction Large Arrow
	Speed Bump/Hump	Chevron Alignment
	Soft Shoulder	Dead End/No Outlet
	Added Lane	Slippery When Wet
	Lane Ends	Prepare To Stop
	Two Direction Large Arrow	Crossings (Pedestrians, Bicycles, Snowmobilers, Etc)
	Two-Way Traffic	Merge
		Cross Traffic Does Not Stop
		Playground
		Intersection Warning
		Advance Traffic Control (General Application)

## Guide

STANDARD (Shall)	GUIDANCE (Should)	OPTION (May)	SUPPORT
Route Numbers (On All Numbered Highways)	Street Names	Reference Location (Mile Markers)	Destination and Distance
Junction Assembly (Jct US 63)		City Name Marker	Confirming Assemblies
Advance Route Turn Assembly			County Name Marker

# Effectiveness of Traffic Signs

- Literature is virtually non-existent regarding effectiveness of signs
- Most signs fall into the category of “hope”
  - *“Hope is not an engineering strategy.”*
- Why install and maintain signs that are not shown to be effective?
- An objective of our Proposed Sign Policy is to remove ineffective signs on the county highway system.

# Why Develop a Traffic Sign Policy?

## Benefits

- Guides maintenance and inspection efforts → Uniformity
  - Many different ways to apply the MUTCD
  - Provides guidance so both sign crews arrive at the same answer
  - Continuity for future personnel
- Reduction in maintenance cost (~20% reduction in sign inventory)
- Provides discretion/information to staff
- Establishes procedures
- Sets priorities
- Supports statutory discretionary immunity

Official Immunity    Discretionary Immunity



# Traffic Sign Policy Outline

- Purpose and Background
- Policy Statement
- Sign Retroreflectivity Management Method
- Traffic Sign Management
- Traffic Signs Standards and Guidance
- Policy Implementation
- Missing and Damaged Signs
- Special Event Signing
- Sign Programs
- Deviation from Policy and Standards
- Review and Modification of Policy



# Traffic Sign Policy

## *Purpose and Background*

- “The purpose of this policy is to establish uniformity in the installation and maintenance of traffic signs on the St. Louis County highway system...”
- “It is in the interest of St. Louis County and the public to prevent the excessive use of traffic signs on the county highway system. A conservative use of traffic signs reduces maintenance costs and improves the effectiveness of those remaining signs. Limiting the excessive use of traffic signs fulfills demonstrated needs, champions a command of attention, reduces clutter that impedes the conveyance of a clear and simple meaning, fosters respect by road users, and reduces conflicts that may restrict time for a proper response which cumulatively improves traffic safety for all users and pursues the goals of the Minnesota Toward Zero Deaths partnership in St. Louis County.”



# Traffic Sign Policy

## *Policy Statement*

- “This policy provides standards and guidance for the St. Louis County Public Works staff to judiciously install and maintain traffic signs. All traffic signs on the St. Louis County highway system shall conform to the MnMUTCD. Traffic signs not required to be installed by the MnMUTCD shall not be installed on the St. Louis County highway system unless specified in this Policy, or authorized by the Traffic Engineer or County Engineer.”



# Traffic Sign Policy

## *Standards and Guidance*

- Regulatory Signs

- Only install STOP signs at intersections of *publically* maintained roads
  - No STOP signs at entrances to private or public facilities
- Only install Speed Limit signs for speed zones
  - Rural statutory speed limit of 55 mph will not be posted
- Use End Speed Zone signs to mark the end of a speed zone and beginning of the rural-statutory speed limit of 55 mph
- Local ordinance signs not applicable to traffic operations will not be allowed
  - Traffic related ordinance signs will be allowed as their own sign panel (e.g. Alternate Side Parking, School Bus Pickup...)
  - The requesting agency is responsible for cost to fabricate, SLC is responsible to install



# Traffic Sign Policy

## *Standards and Guidance*

- Warning Signs
  - Curve and turn warning signs will be installed on gravel and paved roads using different criteria
    - Will result in more warning signs at curves and turns than required by the MUTCD
    - Emphasis in the County Road Safety Plan
  - Stop Ahead signs shall be installed in advance of all Stop signs on non-dead-end roads in rural areas
  - Intersection warning signs will not be allowed
    - Expect some deviation from policy for unique conditions



# Traffic Sign Policy

## *Standards and Guidance*

- Warning Signs
  - Snowmobile Crossing warning signs will be reviewed annually by the sign supervisors
  - School Bus Stop Ahead warning signs will be reviewed annually by the sign supervisors
  - Only install Fire Hall warning signs at locations with restricted sight distance
    - Fire Hall may install a dynamic flashing Fire Hall sign at unrestricted sight distance locations
      - Fire Hall is responsible to purchase the sign
      - SLC is responsible to install the sign



# Traffic Sign Policy

## *Standards and Guidance*

- Warning Signs
  - Children at Play warning signs are already not allowed to be installed (not allowed by the MUTCD)
  - Hidden Intersection Ahead/Hidden Entrance warning signs will not be allowed



# Traffic Sign Policy

## *Standards and Guidance*

- Conventional Signs

- Developed a new network of special designated CSAH's
- Restrict installation of Destination signs to intersection of two special CSAHs
- Public Water signs shall be furnished by the Minnesota DNR and SLC is responsible to install



# Traffic Sign Policy

## *Standards and Guidance*



- Conventional Signs
  - City or Township Name signs will only be installed when requested by the respective agency
    - City or Township is responsible for cost to fabricate sign
    - SLC is responsible for cost to install the sign
    - No traffic ordinances will be allowed on this sign
    - Existing signs that meet the policy will likely be retained
    - Consideration...vehicles equipped with GPS technology may result in diminished effectiveness of these signs
    - No population data listed on signs
    - State economic program related signing will be allowed upon review by the traffic engineer (e.g. Minnesota Star City...)

# Traffic Sign Policy

## *Standards and Guidance*

- Supplemental Guide Signs
  - Only certain facilities are eligible for a guide sign
  - Requestor shall be responsible for the cost to fabricate and install
  - Request input from the board...



# Qualified Facilities

- Airports
- Casinos
- Educational Institutions
- National Monuments
- *Traffic Generators*
- National Monuments
- National Parks
- State Parks
- Tourist Information
- Trail Access

# Traffic Generators

- Bus Depot
- Camp (private-rural environment)
- Cemetery
- Civic Center and Convention Center
- Correctional Institution
- County Fairground
- Downtown or Business District (rural environment)
- Fish Hatchery
- Golf Course
- Historical Marker
- Historic Site
- Indoor Ice Arena
- Industrial Park
- Interpretive Center
- Road Maintenance Facility
- Scientific and Natural Area
- Ski Area
- Veteran Memorial or War Memorial
- Library
- Multi-Purpose Facility (rural environment)
- Museum
- Park
- Public Access to Lake and River
- Public Office Building
- Recreational Complex
- Recycling Center
- Regional Human Services Center, Regional Treatment Center
- Sanitary Landfill, Demolition Landfill , Solid Waste Transfer Station, and Household Hazardous Waste sites
- Wildlife Refuge or Wildlife Management Area
- Workforce Center
- Zoo

# Traffic Sign Policy

## *Implementation*

- Traffic signs specified to be installed by this policy shall be retained
- Traffic signs subject to the approval of the Traffic Engineer shall be reviewed to determine if they shall be retained or removed
- Traffic signs not specified to be installed by this policy shall be removed



# Traffic Sign Policy

## *Special Event Signing*

- Public Works currently provides traffic control services for the following events that list SLC as a sponsor...
  - Grandma's Marathon
  - North Shore Inline Marathon
  - Brewhouse Triathlon
  - Beargrease Sled Dog Race
- SLC requires all other special event organizations to provide their own traffic control
- Internal policy is to not provide traffic control services for any other event



# Traffic Sign Policy

## *Sign Programs*

- Current programs that will be continued...
  - Adopt-A-Highway
  - Specific Service
  - Resort Signing
  - Neighborhood Watch Signs
  - Supplemental Guide Signing



# Traffic Sign Policy

## *Deviation from Policy and Standards*

- Public Works reserves the right to supersede the policy when safety concerns dictate
- Must be reviewed and approved by the...
  - Traffic Engineer
  - County Engineer
- Shall be thoroughly documented



# Traffic Sign Policy

## *Review of Policy*

- Should be reviewed on a regular basis
- Revisions likely to be generated by...
  - Revision to the MUTCD
  - New version of the MUTCD
  - Update in the County Road Safety Plan
  - Change in internal traffic sign management practices
  - Feedback



# Educational Outreach

- Implementation of this Policy will require educational outreach to cities and townships
  - What signs are allowed/prohibited on the county highway system
  - How to request a sign
  - Cost contribution



# Proposed Adoption Schedule

- County Board Workshop
  - February 18, 2014
- County Board Approval
  - June 2014
- Internal Sign Crew Training
  - June 2014
- Educational Outreach to Cities and Townships
  - June/July 2014



# Thank you...

- Questions
- Comments
- Discussion

